

XLVIII.—*Note on the supposed "Discovery of an extremely minute Vertebrate Lower Jaw in Mud dredged at St. Helena, by Dr. Wallich, F.L.S."* By C. SPENCE BATE, F.R.S., F.L.S. &c.

No doubt every naturalist must have received with astonishment Dr. Wallich's recent announcement of his discovery of the jaw of so minute a vertebrate animal as he records in the 'Annals' for October last.

I am sure he will not think that I am intrusively officious in pointing out some conditions in the specimen that appear to throw considerable doubt upon its being the jaw of any animal at all.

I would premise that, upon the announcement of any new or important circumstance, it is incumbent that we should first ascertain whether or not it be consistent with our present knowledge, before the discovery be accepted as a fact.

Assuming that Dr. Wallich's figure in the 'Annals,' as I have no doubt, is correct, there are two features that seem to be inconsistent with the idea of the specimen being the jaw of a vertebrate animal: I allude to the circumstance of there being no condyloid process, and the character of the teeth.

I believe that I am correct in asserting that we have not a single instance of an animal having the marginal process of the jaw developed into a serrature such as Dr. Wallich has figured. In those reptiles where the teeth anchylose with the bone, the teeth are yet implanted in alveoli of their own. In fish (of which this cannot be a jaw), the dermal attachments of the teeth, when removed, leave the jaw smooth.

The question will probably be put, If it be not the jaw of a vertebrate animal, what is it? In reply, I would state that it appears to me to be the dactylos or last joint of a leg of a small *Hyperine Crustacean*, and that the circumstance which has misled Dr. Wallich is that, the animal being near the period of moulting its skin, the joint exhibits, within, a second row of marginal armature, which has been mistaken for a second ramus.

I have repeatedly seen specimens under such conditions as I mention, which, though not agreeing in exact detail of serrature with that figured in the 'Annals,' may yet be sufficiently near to identify the group to which the part belongs.

In the sketch below, I figure a leg of *Phrosina longispina*, as well as one in which a drawing of the supposed jaw is substituted for that of the true dactylos, for comparison with Dr. Wallich's drawing.

The genus *Phrosina* is very abundant in the tropical and sub-tropical Atlantic Ocean.

Of course, in making this statement, I do so with all reservation, since I know nothing of the specimen beyond what has appeared in the 'Annals of Natural History' for October last.

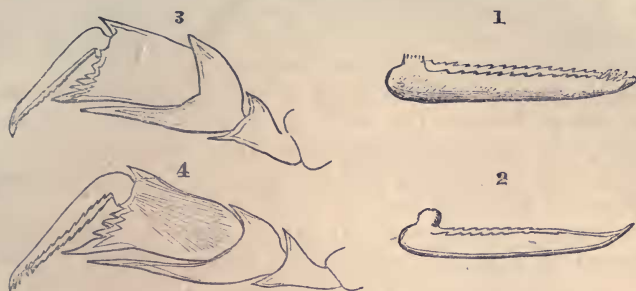


Fig. 1. Supposed vertebrate jaw; reduced from the figure in the 'Annals,' page 304.

Fig. 2. Dactylos of the fourth pair of pereopoda of *Phrosina longispina*.

Fig. 3. Leg of ditto, with dactylos *in situ*, as it appears a short time previously to moulting.

Fig. 4. Ditto, with fig. 1 inserted instead of the true dactylos.

XLIX.—*On the supposed Vertebrate Lower Jaw, dredged in Mud at St. Helena.* By Dr. WALLICH, F.L.S., F.G.S.

*To the Editors of the Annals and Magazine of Natural History.*

GENTLEMEN,

In the October Number of the 'Annals' you were good enough to insert my notice regarding the supposed discovery, in mud dredged at St. Helena, of a minute vertebrate lower jaw. That notice was more hastily penned than it should or indeed would have been, had I not been desirous of exhibiting the specimen at the then approaching meeting of the British Association.

Although more than one distinguished naturalist coincided in the opinion expressed by me as to its nature, there were others who at once pronounced it to be no part of a vertebrate structure, but referred it, each in turn, to portions of the invertebrate division very widely removed one from the other. My own impression, entertained and expressed from the first, was that, if not a vertebrate jaw, the object in question formed part of an Echinoderm, this supposition being based on a faint trace of reticulated texture observable under a high power at the point answering to the angle of the right ramus in the lateral view.